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**LEADERSHIP IN
SMALL ISOLATED
GROUPS¹**

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Leadership in Small Isolated Groups¹

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Background

In adhering to the concept of an ideal leader as a freely followed individual (6, 13), the appropriate criterion of such an effective leader is the extent to which he is esteemed by his group members. Esteem refers to the acceptance of an individual on the basis of his value to others as an individual in addition to the value of any particular status which he holds within the group.

One possible basis of leader esteem is the leader's ability in regard to the common group task or problem. But task ability is not sufficient; first of all, it does not insure that leadership behavior will be attempted (8, 12). Then too, since leadership is an interpersonal process, it

¹This study was conducted under the Navy's Bureau of Medicine and Surgery Research Task MR005.12-2004, Subtask 1, Number 62-13. The opinions expressed in this paper are those of the author and are not to be construed as necessarily reflecting the official views of The Navy Department.

would seem likely that a major source of leader esteem would be the manner or attitude with which the leader-follower relationship is enacted, or what we might refer to as leadership style.

Perhaps the two most frequently studied styles of leadership have been the authoritarian and democratic orientations, often appearing under such labels as leader vs. group-centered behavior, supervisory vs. participatory behavior, or formal vs. informal behavior. Although the personality characteristics of leader and followers may be of relevance (7), the extent to which the authoritarian and democratic leadership styles are likely to be effective appears to be to a large degree a function of group size and structure (11). This being so, it is appropriate at this time to indicate that the focus of the present study is upon leadership styles in small, face-to-face, living-working groups, all members of which are rather continuously confined to a common environment and are relatively isolated from society at large. In particular, the present study is concerned with leadership at small Antarctic scientific stations.

Studies of other small isolated groups have suggested that the more effective leadership style in such a setting

is that of a relatively democratic orientation. Studies of the World War II combat veteran, for example, revealed that men in small field units preferred a leader who was democratic and had a personal interest in each of his men (16). Campbell (3), in a study of submarine division officers, found that officers who felt that they had maintained an informal and personal relationship with their men were judged by the men as better leaders than those who felt that they had been formal and impersonal. Boag (2), in a study of small Arctic camps, expressed the opinion that the propinquity of leader to men required in such a setting makes the leader's job particularly difficult, suggesting on the one hand that some leader-follower distance should be maintained for effective leadership and on the other hand that perhaps the customary distance between leader and men is not so appropriate in such a group.

On the basis of the preceding findings and assumptions, it was expected in the present study that esteemed leadership at small Antarctic stations would be more likely a function of a relatively democratic, participatory, and personal style of leadership than a relatively authoritarian, supervisory, and impersonal style.

The Setting

Each year, in an effort to obtain scientific information, approximately fifteen to twenty men work and live for twelve continuous months at each of three small stations in the Antarctic. Roughly half the station members are Navy enlisted personnel who maintain the station in operating condition; the remaining station members are civilian scientists and technicians each of whom has a rather specific task in the scientific program. Median age of the military personnel has been approximately 28 years in contrast to 26 years for civilian station members; the civilians, on the other hand, generally have had more formal education, usually a difference between a college and high school education.

During the first six months, of nearly continuous sunlight and long working hours in the most arduous of climatic conditions, all station members must share the load of work required to prepare the station for the winter ahead. Once the continuous darkness and storms of winter set in, activities move indoors, supply lines close, and except for occasional radio communication the men at each station are isolated from the outside world for the next six months.

At each small station there are generally two men designated prior to the group's formation as station leaders. One, usually a Medical Officer, is appointed military leader; another, a civilian, is appointed scientific director of the station. While emergent leaders can and do exist in these stations, it is the military and civilian designated leader at each station to whom group members at least initially look for guidance and upon whose shoulders lie the ultimate responsibility for the station. The present study is focused upon such designated station leaders and their styles of leadership.

Method

Subjects

A sample of ten designated station leaders were studied, one military and one civilian leader from each of five different stations. The military leaders were all physicians, had generally less than one year of military experience, and were of a median age of 27 years. The civilian leaders were college graduates with some graduate training, had about nine years of job experience on the average, and were of a median age of 35 years.

Procedure

Within one year of their return from the Antarctic, station members of the five stations under study were sent questionnaires.² Of the 74 questionnaires mailed, 65 percent were returned, yielding a sample N of 48 respondents. The respondents were approximately equally divided between military and civilian station members (56 percent were military); at least half the members of each station responded; and, in terms of performance evaluations given the men by their leaders at the end of their respective years in the Antarctic, the respondents were men who had performed somewhat better than the nonrespondents.

Sources of data on the questionnaires which were relevant to the present study were the following. Ratings were obtained for each of the two station leaders on the amount of respect held for them by station members; sociometric data were obtained in the form of nominations for closest friends and for persons at the station to whom the station member went for advice; open-end descriptions of the strong and weak points of every station member, including the leaders, were obtained; and, an open-end

²Forwarding addresses were not available for 14 percent of station members.

description of the station leadership was obtained. For three of the five stations, members were also asked to rate each of the two leaders on a number of behaviors which they may or may not have carried out as leaders, such as decision making, seeking suggestions, planning, and participating in group activities.

The first analysis of the data was that of differentiating leaders on esteem. The second analysis was that of evaluating the behavioral correlates of esteem, derived both from open-end descriptions and from ratings of leader behavior.

Results

Leader Esteem

Leaders were first of all categorized into three experimental groups on the basis of the respect ratings. These groups are shown in Table 1³; as indicated by the range of respect ratings for each experimental group, the groups were not overlapping and clearly differentiated. There was at least one military and one civilian leader within each experimental group. Since it was possible for some respect to be held for each leader on the basis of his status within the group, the evaluation of leader esteem also included an estimate of each leader's value to

³ Tables appended.

his men as a source for advice and as a friend. Again, as indicated by the results of Table 1, the highly respected leaders were also more likely to be consulted for advice and more frequently considered a good friend by their station members. It seems apparent, therefore, that the respect ratings reflected personal qualities of the leaders as well as status value associated with their position within the group.

Behavioral Correlates of Esteem

Grouping the leaders on the basis of esteem, as presented in Table 1, results of a content analysis applied to open-end description data are shown in Table 2. Descriptions were given of each leader by their station members both in regard to personal qualities and leadership technique. A description was considered salient if mentioned in an unopposed manner by at least two station members. Each of the high esteem leaders was referred to as a good leader; these men were also regarded as hard workers, friendly, and impartial. If they did not actually work along side of their men, they supported the interests of their men. In contrast, the low esteem leaders appeared to be rather distant from their men; they were hard to get to know, not supporting of their men, or hardly ever with their men.

In regard to decision-making, they were inclined to act in a relatively autonomous manner.

A supplementary analysis of behavioral correlates of esteem was conducted with rating data obtained from the members of three stations. In this analysis, the results of which appear in Table 3, ratings given to each leader on various forms of behavior were correlated with the respect rating given the leader by each station member. Pooling the data across stations, a separate analysis was conducted for military and civilian station leaders. For both types of leaders, military and civilian, respect was gained by referring to men as individuals rather than as subordinates or along formal organizational lines. Personal praise for the men, daily contact with the men, decision-making ability, participation with the men, and seeking the advice of their men were forms of behavior which station members valued highly in their leaders.

Discussion

Regardless of whether the designated leader was military or civilian in status, the descriptions and ratings given the leaders by their station members suggest that esteemed leaders in small Antarctic stations are those men who lead through a relatively personal, participatory,

and permissive style associated with the democratic orientation of leadership. The respected leaders seemed to be closer to their men but at the same time more capable of making impartial decisions. Those aspects of leadership which have to do with leader-follower distance and with leader decision-making seem particularly worthy of further comment.

While it is difficult to measure psychological distance, there is an assumption that a certain amount of distance between leader and men must be maintained in order that the leader be able to make impartial decisions (5, 10). But whatever this distance may be, it should probably be proportional to the parameters of physical and status distances between leader and men prescribed by the particular group and setting under study. The living group in a confining Antarctic setting has a rather obviously restricted spatial environment. Also, with the many common chores to be performed by all station members regardless of their task specialties, there is an element of role diffuseness and a corresponding reduction of status distance between station members, leaders included. Thus, the small station leader in the Antarctic must maintain a somewhat closer relationship with his men than he might

customarily maintain in another setting. Such attitudinal proximity of leader to men has further ramifications in terms of decision-making functions of the leader.

One type of decision with which the small station leader is potentially faced is the emergency decision, a decision which must generally be made quickly in a threatening situation which in some way departs from a customary or expected frame-of-reference. Clarity of leadership structure must exist in such a situation (1), and a directive authoritarian approach is often called for. But most groups are not continuously faced with one emergency situation after another, and it may be that the leader who maintains a relatively democratic and personal relationship with his men in the less stressful situations is the very leader who will gain the immediate support of his men when he is required to act impersonally in taking a rather authoritarian stand. Torrance, for example, found that air crew commanders who encouraged task-oriented discussion and disagreement among crew members prior to combat missions were more successful in gaining the support of their men when quick leader decisions were required under combat conditions (17). It is as though, in Hollander's terms (9), the leader builds up idiosyncratic credit during the less

stressful situation and is then not only allowed, but expected, to deviate from a customary leadership technique in the more stressful situation.

A second type of decision to be made by the station leader is that pertaining to general station policy. In regard to this type of decision, a relatively democratic orientation on the part of the leader would allow for the operation of group discussion and consensus regarding policies which will affect all station members. The participation of group members in such a decision-making process is generally conducive to group member support for decisions finally made through such a process (4, 11) which in turn facilitates self-discipline, a most necessary form of discipline in the Antarctic.

Finally, there is the technical decision regarding logistics or scientific matters. Since neither of the two station leaders is generally competent in all fields represented by station members, it would seem rather logical for a leader to seek the expert advice of station members who are particularly knowledgeable in the task area in which a technical decision must be made. The leader in this situation, to be most effective, would probably act in a manner described by Roby (15) as the executive

function. He would assess as much relevant opinion as possible before making a decision, and would therefore have to be acquainted with the abilities of each of his men. The small station allows the leader to carry out this acquaintance process on a man-to-man basis rather than through the staff structure required in a larger organization.

In conclusion, the general style of leadership associated with esteem at a small station is that characterized by a rather personal relationship between the leader and each of his men. By maintaining a relatively democratic orientation, either in his attitude or through the techniques of leadership which he might choose, it appears likely that decisions can be made which are impartial, which have the general support of the men, and which are most appropriate under very special conditions.

Summary

A study of behavioral characteristics associated with leader esteem was conducted with a sample of ten designated leaders from small Antarctic stations. Supporting the results obtained in other studies of leadership in small, primary, living-working groups under confining and isolated conditions, esteemed leadership was found to be a correlate

of a relatively democratic leadership orientation, a leadership style characterized by leader participation with the men, by a personal man-to-man relationship between leader and men, and by a leader who respects and seeks the opinions of his men in matters which directly concern them.

The preceding style of leadership appears most effective in the small station setting for the following reasons. First, it facilitates a psychological distance between leader and men which is compatible with the physical and status distances prescribed by the group situation. Secondly, it seems likely to result in decisions which are supported personally by the men and decisions which are based upon the best information possible under the circumstances.

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Table 1
Indices of Esteem for Three Experimental Groups
of Designated Leaders

<u>Indices of Esteem for Leaders</u>	Experimental Groups of Leaders		
	<u>Group L (n=3)</u>	<u>Group M (n=3)</u>	<u>Group H (n=4)</u>
Respect index (range) ^a	.24-.30	.52-.58	.88-1.00
Advice index ^b	17%	35%	86%
Friendship index ^c	18%	20%	63%

^aRespect index for each leader was obtained as follows: (average rating of respect received from station members) divided by (maximum possible rating of respect); the range of such respect indices is shown above for each of the three experimental groups of leaders.

^bFor each leader, the percentage was obtained of station members who mentioned consulting such leader for advice; by arcsin transformation, an average percentage was then obtained across leaders within each of the experimental groups above.

^cFor each leader, the percentage was obtained of station members who mentioned such leader as one of their closest friends; by arcsin transformation, an average percentage was then obtained across leaders within each of the experimental groups above.

Table 2

Open-end Descriptions Given by Station Members of
Designated Leaders Who Were Experimentally
Classified into Groups of High,
Moderate, and Low Esteem^a

Descriptions of Leaders in Experimental Group H: High Esteem

- (1) good leader, hard worker, set example, worked along side of his men, knowledgable, worked too hard himself, friendly, gave suggestions rather than orders
- (2) good leader, helpful and understanding, impartial, friendly, stubborn, good organizer, showed confidence in men
- (3) good leader, hard worker, efficient, intelligent, let men alone in their specialties, supported his men, somewhat moody, somewhat aloof socially
- (4) good leader, hard worker, set example, diplomatic, impartial, friendly, worked along side of his men

Descriptions of Leaders in Experimental Group M: Moderate Esteem

- (1) tended to treat men as immature, made rather arbitrary decisions, often disregarded his own rules, didn't know how to handle men, intelligent
- (2) not much of a leader, nice guy, sense of humor, admitted his shortcomings, avoided making decisions, somewhat lazy, unsure of his status, available for personal problems of his men
- (3) poor leader, self-centered, knew his job, overly critical of men's work, tidy and orderly, limited perspective in making decisions

Descriptions of Leaders in Experimental Group L: Low Esteem

- (1) not much of a leader, hard to get along with, too fussy, no sense of humor, hard worker, knew his job
- (2) poor leader, didn't share work load, inflexible, didn't enforce regulations, self-contradictory, made hasty decisions without advice, didn't support his key men
- (3) poor leader, made hasty decisions without advice, inconsiderate of his men, never with his men, unsure of his status, temperamental

^aThe three experimental groups of high, moderate, and low esteem were the same as Groups H, M, and L, respectively, in Table 1.

Table 3

Behavioral Rating Correlates of Respect for Military and Civilian Leaders^a

<u>Behavioral Correlates of Respect</u>	<u>Military Leaders</u>	<u>Civilian Leaders</u>
Related to his men as individuals rather than as subordinates	.852	.850
Praised his men when a job was well done	.846	.756
Kept himself informed about station activities at all times	.786	.597
Maintained daily contact with each of his men	.761	.500
Ability to plan station activities through the year	.724	.850
Ability to make emergency decisions	.690	.850
Participated in group activities	.690	.686
Encouraged suggestions from his men regarding station policies	.600	.496
Led his men by setting an example	.592	.667
Ability to maintain discipline among his men	.461	.686
Stuck to his decisions once they were made	.395	.458
Demanded good work of his men in their jobs	.395	.458

^aAlthough all ratings were made on a five-point scale, phi coefficients were used as estimates of the correlation between forms of behavior and respect, due to the bimodal distribution obtained on most rating dimensions; rating values of 1-3 were combined as were rating values of 4-5 for use in a 2 x 2 matrix; data presented in this table are based upon twenty-five respondents from three stations; for each set of phi coefficients, $r_{\text{phi}} (.05) = .368$, $r_{\text{phi}} (.01) = .515$.